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ABSTRACT

This study stems from attempts to develop prediction equations for freshman grade point average for two demographic classifications of students at a southwestern university. Although the particular results are probably of interest only to that university, certain aspects of the study should be of general interest, because, of the 3,237 students comprising the sample, 1,241 were classifiable as Spanish-surname individuals. Comparisons of the regression equations resulting from using SAT scores and high school quartile rank to predict freshmen grade point average indicate that different equations are necessary for different classifications of students. Since these data were obtained from an educational environment created by a semi-open admissions policy and thus represent no restriction in the range of SAT scores, the results of this study may be of special interest to individuals and educational institutions who deal with similar populations. (Author)

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DIFFERENTIAL PREDICTION OF FRESHMAN GRADE POINT AVERAGE FOR SEX AND TWO ETHNIC CLASSIFICATIONS AT A SOUTHWESTERN UNIVERSITY

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Whether for the purpose of conservation of resources, or for humanitarian or other reasons, most colleges and universities like to assess the prospects of academic success for prospective students before the student is admitted. Usually only those students who are predicted to succeed are then admitted. Such endeavors, however, often prove difficult, given the interaction between the state of the technology of testing and measurement and the political pressures for social justice. Kendrick (1964) expressed this problem in the following manner:

> If values were divorced from science, and admissions practice from both, it would be both unnecessary and impossible to say anything about the relationship of cultural deprivation to College Board scores. But sentiment suggests it is wrong that students from minority cultures so seldom attend college. And experience with tests shows fairly clearly that some tests misrepresent the intellectual competence of students whose early environment has been different from that of most of us. Beyond that we cannot go with assurance (p. 7).

However, if such misrepresentations of intellectual competence by tests can be discovered, perhaps compensations can be made in the interpretation of tests, more accurate predictions made possible, and social justice obtained.

Davis and Temp (1971) indicated two general ways that test scores which could possibly misrepresent the intellectual competence of minority students could be misused by college admissions officials:

> 1. Bias in the use of an admissions test could be legitimately claimed if an educational institution excluded members of a minority group who obtained scores on the test below a certain level without attention to the fact that on the average minority subgroup members obtain lower

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scores on the test than does the subgroup for which the arbitrary cutoff level was established.

and 2.* Bias would be evidenced if scores on a test used as an admissions screening device (a) were related to college success for the dominant subgroup but not for the minority subgroup, (b) were differentially related to college success such that error of prediction was greater for the minority subgroup, or (c) were similarly related to college success but members of the minority subgroup with a given score on the test are more successful in college than members of the dominant subgroup with the same score level.

Several investigations of possible bias in the use of the Scholastic Aptitude Test as a college screening device for members of the black culture have been reported. Reviews by Thomas and Stanley (1969), Hendrick and Thomas (1971), and Stanley (1971) provide extensive coverage of this literature. Later studies by Davis and Temp (1971), Hallinger (1971), Pfeifer and Sedlacek (1971), and Temp (1971) have also been reported. Investigations of differential prediction equations for males and females were reported by Temp (1971) and Cleary and Hilton (1971) and reviews of previous literature can be found in Thomas and Stanley (1969) and Hendrick and Thomas (1971). These studies indicate that black students on the average score considerably lower than white students on both portions of the SAT, but in many cases when these scores are used along with high school grades to predict college grades, predictions for black students are at least as accurate as for white students. Predictions of grades for female students is generally better than for males.

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*Thorndike (1971) presents a selection procedure which is designed to compensate for this type of bias.

There seems to be no published studies investigating the possibility of bias in the use of the Scholastic Aptitude Test as a college screening device for members of the Mexican-American culture. Temaz [1971] has reported an investigation of the ACT as a screening device for this group.

This paper presents an investigation of the SAT as an admissions tool at a Southwestern university with a Mexican-American enrollment of 23-30%. The main purpose of the study involves the investigation of the differential predictive validity of the Scholastic Aptitude Test and class rank in high school as indicators of grade point average in the freshman college year for classifications of students based on sex and ethnicity.

PROCEDURE

The data for the 5,237 students utilized in this study were obtained from the records of The University of Texas at El Paso. This group consisted all entering freshmen for the period Fall semester, 1969 to Fall semester, 1973 who had data for all variables. Since this university has traditionally an open admissions policy during that period, the data represent a set which is generally free of any restrictions in the range of the variables. [Although students with low SAT scores were denied admission during each Fall semester, the restriction policy was essentially open in that students were provisionally admitted in the Spring and Summer semesters without regard to SAT scores or high school graduation.]

The data collected consisted of the scores on the Scholastic Aptitude Test [SAT], which has two subscales labeled Verbal and Quantitative, each of which is designed to have a national mean of 500 and a standard deviation of 100; quartile rank in high school class; grade point average attained for the first thirty or less college hours; and a determination of sex and of ethnicity [as indicated by the surname, for each individual]. Quartile rank

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groups. The groups probably do differ in terms of the regression constants however. Overall the differences in the prediction equations appear to be attributable to differences in the sexes and not to differences in ethnicity.

This study indicates that in terms of the magnitude of SAT scores Spanish surname individuals tend to score about a half a standard deviation below non-Spanish surname individuals. However, in terms of prediction of freshman grade point average, there does not appear to be any bias against Spanish surname individuals, since the regression constants and slopes for SAT V, SAT Q and quartile rank did not differ significantly for the groups based on ethnicity. On the other hand, there does appear to be some bias against women since the regression equations over-predict female grade point average as compared to males. This indicates that females probably can be successful at this university with lower SAT scores and quartile rank than can males.

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